

REMARKS

The Office Action dated October 31, 2006 has been fully considered by the Applicant. The Examiner objected to the drawings and specification for certain informalities. In response, Applicant has submitted Replacement Drawings pursuant to MPEP § 608.02(p) and has amended the specification pursuant to MPEP § 714 to cure the informalities consisting of minor grammatical formalities and typographical errors. No new matter is proposed to be incorporated herewith. The Examiner rejected Claims 1-3, 5 and 6 under 35 U.S.C. § 103(a) as being unpatentable over Behmenburg *et al.* in view of Sorum *et al.* The Examiner also rejected Claim 4 under 35 U.S.C. § 103(a) as being unpatentable over Behmenburg *et al.* in view of Sorum *et al.*, in further view of Hiebert *et al.* In response, Applicant has amended independent Claim 1 and dependent Claims 2-4 and 6 to further distinguish the present invention from the cited art. In light of foregoing amendments and the reasons stated below, Applicant believes the application to be in condition for allowance and such action is earnestly solicited.

The embodiments of the present invention solve various problems and limitations associated with the cited references and other prior art. First off, the present invention is not a leveling device, such as those in the cited art, but is a system that allows for the distribution of air to, or withholding of air from, specific air bags utilized in 18-wheel tractor trailers. Behmenburg, Sorum and Hiebert do not have such capabilities. The present invention is to be used in addition to the leveling devices of the cited references and other prior art. Although the cited patents allow the fluid transfer of air from the air bags on one side of a tractor trailer to the air bags on the other side of the trailer, and for the addition or reduction of compressed air from individual air bags, they do not solve the problem associated with sealing off a leaking air bag that has incurred leakage of compressed air. Utilizing the cited references provides for a continuous

air flow until reaching an equilibrium within the air bags. Without the present invention, this equilibrium is not sustained. When an air bag is leaking and compressed air from the leaking air bag is escaping into the atmosphere, the air supply (compressor) must constantly run in order to maintain the fluid equilibrium, which invites mechanical failure, and of greater significance, releasing air from the tractor trailer's air brakes resulting in a malfunction of the rigs breaking capabilities.

Throughout the trucking industry, tractor trailer rigs are outfitted with air bags, routinely four, situated above the front axle and the rear axles of the trailers. These air bags, and the air brake systems, receive their air supply from a common source. If an air leak occurs in one of these air bags, all air bags become depleted in addition to the air brake system sustaining air loss, which results in the operator of the rig having to pull off the roadway and await assistance. The air brakes will lose their braking capability without the air, and thus, lock the brakes at that point. Such occurrences are quite costly in both the loss of time and in the expense of the repair and towing. The present invention allows the operator upon becoming aware of an air bag leak, with the simple turn of a valve, isolate the leaking bag, allowing the remaining air bags and air brakes to return to their normal air level. The present invention is manually operated, as opposed to the sensor activated devices of the prior art, and capable of allowing air into any chosen air bag. This feature is necessary while in the process of raising an axle, and it is not present on the sensor operated devices of prior art currently used on certain leveling and air brake systems. The embodiments of the present invention has no moving parts, other than the movement of a valve when selected by the operator, and is subject to almost no wear and tear, thus making is basically failure proof.

During normal operation of a tractor trailer rig incorporating the embodiments of the present invention, a handle is actuated so as to open a valve allowing compressed air from a compressed air source through a series of conduits and into the respective air bag. The handles of the valves are actuated so that the valves are open and allow for compressed air to travel from a channel connected to the compressed air source through the series of conduits through the respective regulators and into the air bags associated with each valve assembly. If one of the air bags associated with one of the valve assemblies develops an air leak, the corresponding valve assembly is closed by actuating the handle to close the valve of that particular air bag. This prevents the compressed air source as well as the remaining three air bags from losing pressure. By sealing off the damaged air bag by closing its respective valve assembly, the other air bags are allowed to continue functioning normally. This allows the operator of a tractor trailer to continue traveling until he reaches a service station where the damaged air bag may be repaired and re-inflated. In the absence of incorporating the valve system of the embodiments of the present invention into a tractor trailer, all of the air bags remain in fluid connection with the air supply source. Therefore, when one of the air bags forms a leak, all of the air bags, as well as the pressurized air supply, become depressurized. All of the associated air bags will deflate and the trailer will become immobilized. Furthermore, if the same pressurized air supply is utilized to supply compressed air to the tractor trailer's air brakes, the loss of pressure will result in the air brakes locking up, thereby making the rig immobile. The operator is then required to call for assistance to have the tractor trailer repaired at a remote location. This is extremely inefficient as it wastes both time and money. When the present invention is utilized, time and money are substantially saved because the operator may continue transporting the tractor trailer to the nearest service station.

In addition to the foregoing benefits of the embodiments of the present invention, it is also capable of numerous other benefits and features not present in the prior art. The present invention allows the operator to utilize pneumatic tools, such as a pneumatic grease gun, while at roadside rest areas or truck stops to keep the rig mechanically sound. The present invention also allows the operator to raise certain axles, by increasing and/or decreasing the air levels in various air bags, in the event of a tire blowout, bearing problem, damaged axle, wheel or other such malfunction. Once raised, the axle can be secured in place and the operator can continue with his trip. This may be accomplished without the use of this device, but it is much more labor intensive and would take a much longer amount of time. Even without a malfunction or mechanical problem, many tractor trailer operators prefer to raise certain axles during portions of their trip in order to save wear and tear on tires, bearings, axles and brakes. Furthermore, the present invention allows for variation in the amount of air in selected air bags while loading and/or unloading, thus providing for greater stability during the process.

The foregoing comparison between the Behmenburg, Sorum and Hiebert references and art disclosed in embodiments of the present invention reveals that the Behmenburg, Sorum and Hiebert references do not and cannot be made teach to the disclosed art in the present application. Prior art has not satisfactorily solved the problem of sealing off air leaks in individually air bags of tractor trailers, and the present invention overcomes these deficiencies by enabling an operator of a tractor trailer to manually actuate a valve, sealing off the leaking air bag, thus allowing the operator to continue his trip to a service station for repairs. It is envisioned that this invention will significantly decrease wasted time and money associated with waiting for repair assistance at remote locations.

It is believed the application is now in condition for allowance and such action is earnestly solicited.

If further issues remain, a telephone conference with the Examiner is respectfully requested.

Respectfully submitted,



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